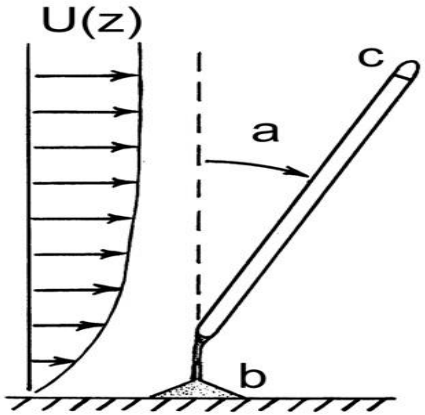
Introducing two new low-cost alternatives to measure ocean currents:

1) Student-built, satellite-tracked drifters

and 2) internally-recording, tilt meters



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Drifter Features

- **Variety of configurations (surface and drogued)**
- **GPS**
- **Inexpensive unit & fees**
- **SST & drogue-loss sensors available**
- **Made in Maine**
- **Easy real-time data access**
- **Knowledgeable support**

Drifter Cost

eMOLT drifters cost nearly half that of traditional GPS unit. Some options are:

- **"Rachel" $1200 standard Davis-like surface drifter**
- **"Paul" $1200 smaller Rachel designed for near-shore estuarine work**
- **"Kara" $1800 standard WOCE-like drogued drifter**

Satellite (GLOBALSTAR) fees are also far less than traditional ARGOS fees

- **One-time activation Fee: $30**
- **Monthly maintenance: $2.35**
- **Satellite fixes: $0.15/each**

Services such as programming, labeling, assembling, shipping, and post-processing are available if needed at small additional costs.

Drifter Data Access Options:

1. **website download**
2. **automated email**
3. **automated ftp drop**
4. **SOAP API**

Drifter Construction

The basic "Rachel" model is constructed with a set of sails supported by fiberglass rods and high-density foam flotation which are mounted orthogonally around a 4' PVC pipe. The GPS transmitter is mounted on the top of the ballasted pipe. Your contact information can be easily posted along the PVC pipe and on the top of the transmitter. The entire unit weighs approximately 20 lbs and floats to minimize windage.

These units are built by marine science students at the Southern Maine Community College during semester breaks. The PVC center pole and rods are sturdy yet flexible. To assemble the drifters (Figure 2 on opposite page), the rods, sails, and buoys are simply secured with stainless cotter pins and washers in the matter of minutes.

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Tilt-meter Features

- **Variety of configurations depending on magnitude and directionality of insitu flow and water depth:**
  - **multiple lengths record shear (Figure 3)**
  - **designed for both estuarine or shelf environments**
- **Accelerometer/inclinometer mounted on 1-inch PVC pipe (standard length = 1 meter)**
- **Tested and calibrated against traditional current meters w/2 cm/s accuracy (Figure 1) below**
- **User selected sampling interval**
- **Infrared data extraction**
- **Made in Massachusetts**
- **Knowledgeable support**

Tilt-meter Cost

These OkeanoLog tilt-meters are an order-of-magnitude less expensive than traditional current meters. While the basic unit sells for $650, the exact design, construction, and cost are negotiable.

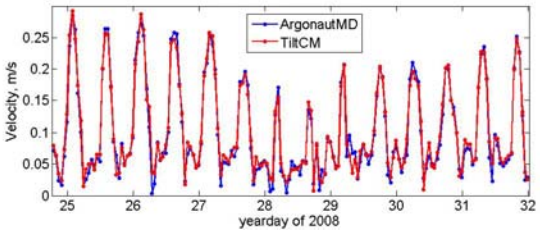

Figure 1 Comparing TCM with traditional current meter.

Figure 2. Dennis McGillicuddy deploying a "rachel" drifter over the rail.

Figure 3. Vitalii Sheremet (lead developer) readying several tilt meters in Falmouth MA